EXHIBIT A
Valley View Ranch Upslope Sediment Reduction
SCOPE OF WORK

Under direction of the Department of Fish and Game, and under the following conditions and terms, the Grantee will:

1. Improve habitat conditions for Chinook salmon, coho salmon and steelhead trout in mainstem Mattole River and two of its tributaries including North Fork Mattole River and East Mill Creek in Humboldt County. This will be done by reducing sediment delivery from roads, gullies, livestock trails and stream banks on the Valley View Ranch. Project work will prevent the delivery of 43,463 yds^3 of sediment.

2. The project is located in Township 1S, Range 2W, S 26, 27, 33, 34 and 35; Township 2S, Range 2W, S 3 and 4 of the Petrolia 7.5 Minute U.S.G.S. Quadrangles, as depicted in Exhibit B, Project Maps 1-5, which are attached and made part of this agreement by this reference.

3. Work will take place as described below:

   Road Restoration Units A and B, as identified in Exhibit B, Maps 2 and 3, will treat 34 stream crossings and adjacent stream bank sites as well as three mass wasting sites preventing the delivery of 18,158 yds^3 of sediment. The following treatments will be implemented as appropriate:
   - installation of 21 culverts sized for the 100-year flood flow, including sufficient capacity for expected wood and sediment;
   - installation of critical dips to eliminate diversion potential at all upgraded crossings and four existing crossings;
   - installation of eight rock armored fill crossings or fords;
   - excavation and/or armoring of inboard ditches;
   - excavation of culvert inlets;
   - installation of one drop inlet;
   - installation of downspouts and/or rock dissipation at culvert outlets;
   - installation of approximately 11 rolling dips;
   - reshaping of approximately 2,160’ of road surface;
   - removal of berms;
   - installation of approximately eight ditch relief culverts;
   - rocking of approximately 2,160’ of road surface;
   - complete excavation of stream crossings (one Humboldt crossing), including 100 year flood channel bottom widths and 2:1 or otherwise stable side slopes;
   - decommission approximately 1000’ of road surface (ripping, outsloping and/or cross draining) to disperse and reduce surface runoff;
   - seeding and mulching of all exposed soils which may deliver sediment to a stream. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years.

Treatment of the East Mill Creek class II tributary, as identified in Exhibit B, Map 4, will prevent the delivery of 6,706yds^3 of sediment. Treatment will include the following:

- construction of 37 check dams with a combination of large wood, willow/brush baffles and 2 to 4 ton boulder as appropriate;
- seeding and mulching of all exposed soils which may deliver sediment to a stream. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years.

Treatment of Jon's Gully, as identified in Exhibit B, Map 5, will prevent the delivery of approximately 5,000 yds^3 of sediment. Treatment will include the following:

- construction of two large check dams approximately 12' to 15' high with a combination of large wood, willow/brush baffles and 2 to 4 ton boulder as appropriate;
- seeding and mulching of all exposed soils which may deliver sediment to a stream. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years.

Treatment of three class II streams, as identified in Exhibit B, Map 5, will prevent the delivery of approximately 12,600 yds^3 of sediment. Treatment will include the following:

- construction of 14 check dams with a combination of large wood, willow/brush baffles and 2 to 4 ton boulder as appropriate;
- seeding and mulching of all exposed soils which may deliver sediment to a stream. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years.

Treatment of 1955' of livestock trail as identified in Exhibit B, Map 6, will prevent the delivery of approximately 1000 yds^3 of sediment. Treatments will include the following:

- 1955' of livestock trails will be shaped and outsloped, overlayed with woven geotextile cloth, rocked and compacted;
- where livestock trails cross streams wet armored fords will be installed;
- Seeding and mulching of all exposed soils which may deliver sediment to a stream. The standard for success is 80% ground cover for broadcast planting of seed, after a period of three years.

4. The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured.

5. All stream crossings will meet flow carrying capacity required for a 100 year flood event as identified by specifications determined by NOAA Fisheries and the California Department of Fish and Game.

6. All crossing upgrades in fish bearing reaches of streams will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and DFG criteria for adult and juvenile salmonid fish passage as described in the Third Edition, Volume II, Part IX, February 2003, of the *California Salmonid Stream Habitat Restoration Manual*. Culvert replacement or modification designs shall be visually reviewed and authorized by NOAA Fisheries (or DFG) engineers prior to commencement of work.

7. Sites which are expected to erode and deliver sediment to the stream are the only locations where work will be authorized for reimbursement under the terms of this agreement. Reimbursement will not be authorized for work done to improve aesthetics only.

8. The Grantee shall notify the Grant Manager a minimum of five working days before the project site is de-watered and the stream flow diverted. The notification will provide a reasonable time for Department personnel to supervise the implementation of the water diversion plan and oversee the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:
   - Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year.
   - The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible.
   - All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
   - The Grantee will provide fish relocation data to the Grant Manager on a form provided by the Department of Fish and Game.
   - Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.

9. The Grantee will maintain the new crossings, inspect the crossings in a timely manner and remove debris as necessary during the storm season.

10. The landowner must maintain road upgrading projects for at least 10 years.

11. All road upgrading or decommissioning will be done in accordance with techniques described in the Handbook for Forest and Ranch Roads, (PWA, 1994c.) and the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part X, January 2004. All road decommissioning and upgrade sites and techniques shall be approved by the Grant Manager before any equipment work takes place.

12. All habitat improvements will follow techniques described in the Third Edition, January 1998, of the *California Salmonid Stream Habitat Restoration Manual*, Flosi et al and the *California Salmonid Stream Habitat Restoration Manual*, Third Edition, Volume II, Part XI, January 2004.

13. Work in flowing streams is restricted to June 15 through October 31. Actual project start and end dates, within this timeframe, are at the discretion of the Department of Fish and Game.

14. Planting of tree seedlings will take place after December 1 or when sufficient rainfall has occurred to insure the best chance of survival of the seedlings. The standard for success is 80% survival of plantings or 80% ground cover for broadcast planting of seed, after a period of three years.

15. An annual report will be submitted each year, no later than November 15, detailing the work completed that field season. The annual report will include, but not necessarily be limited to the following where applicable:
    - Grant number
    - Project name
    - Geographic area (e.g., watershed name)
    - Location of work – show project location using U.S.G.S. 7.5 minute topographical map or appropriately scaled topographical map;
    - implementation start and end dates;
    - as built project description
    - percentage of the project completed to date;
    - dewatering and fish relocation data on DFG data sheet (to be provided by the DFG Grant Manager upon request);
    - projected start and end dates for work to be implemented the following season;

    The annual report will also include, on a site by site basis:
    - road length upgraded;
    - number of stream crossings upgraded;
    - number of landslides/fillslope failures treated;
    - area (ft^2) of landslide/fillslope failure treatments;
    - road length decommissioned;
    - number of stream crossings decommissioned;
    - stream crossings treated for fish passage;
    - length of stream habitat made accessible by fish passage treatment;
    - sediment savings;
    - spoils volumes;
    - number of stream bank sites treated;
    - number of instream grade control structures installed;
    - length of stream bank protected or stabilized;

- instream habitat structures constructed;
- area of any feature installed within bankfull width;
- number of stream blockages removed or made passable;
- number of miles made accessible to salmonids;
- number of trees planted;
- area treated with planting;

16. Upon completion of the project, the Grantee shall submit two hard copies of a final written report and one electronic, Microsoft Word compatible, copy on CD. The report shall include, but not necessarily be limited to the following information:
    - Grant number;
    - Project name;
    - Geographic area (e.g., watershed name);
    - Location of work – show project location using U.S.G.S. 7.5 minute topographical map or appropriately scaled topographical map;
    - Geospatial reference/location (lat/long is preferred – defined as point, line, or polygon)
    - Project start and end dates and the number of person hours expended;
    - Total of each fund source, by line item, expended to complete the project, breaking down Grant dollars, by line item, and any other funding, including type of match (cash or in-kind service);
    - Expected benefits to anadromous salmonids from the project;
    - Labeled before and after photographs of any restoration activities and techniques;
    - Specific project access using public and private roads and trails, with landowner name and address;
    - Complete as built project description;
    - Report measurable metrics for the project by responding to the restoration project metrics listed below.

    Habitat Protection and Restoration Projects– Reporting Metrics (Report N/A to those that do not apply)

    Habitat Projects: (all)
    - Identify the watershed/sub-basin plan or assessment in which the project is identified as a priority.
    - Name the priority habitat limiting factors identified in that plan that are addressed by the project
    - Type of monitoring included in the project
        - Design spec achieved
        - Fish movement/abundance
    - Number of stream miles treated/affected by the project within the project boundaries.

    In-Stream Habitat Projects (HI)

- Description of instream treatments used, including site locations referenced to an established landmark, number of treatment sites, and any modifications to site/treatment design.
- Type of materials used for channel structure placement, select from: individual logs (unanchored); logs fastened together (logjam); rocks/boulders (unanchored); rocks/boulders (fastened or anchored); stumps with roots attached (root wads); weirs; gabions; deflectors/barbs; or other engineered structures
- Miles of stream treated with channel structure placement
- Number of instream pools created by structure placement
- Number of structures placed in channel.

Riparian Habitat Projects (HR, HS)

- Miles of stream treated overall, count stream reach only once.
- Miles of riparian stream bank treated, measure both sides of the bank.
- Total acres of riparian area treated.
- Acres of riparian area planted.
- Species scientific names of plants planted.

Fish Passage Improvement Projects (HB):

- Miles of stream treated.
- Types of crossings treated, select from: culvert, bridge or ford.
- Miles of stream made more accessible by treating stream crossings.
- Number of road crossings removed.
- Number of barriers other than culverts treated for fish passage.
- Miles of stream made more accessible by removing barriers other than culverts.

Upland Habitat Projects (CF, HU)

- Number of actions (road decommission / upgrade)
- Total acres of upslope area treated.
- Total miles of road treated.
- Miles of road treated for road drainage system improvements.
- Miles of road decommissioned.
- Number of cubic yards of sediment saved from entering the stream.
- Types of upland erosion and sediment control, select from erosion control structures; planting; or slope stabilization
- Number of erosion / sediment control installations
- Type(s) of upland agriculture management, select from agricultural management practices; vegetative and tilling practices; or structural practices.

17. The Grantee will acknowledge the participation of the Department of Fish and Game, Fisheries Restoration Grant funds on any signs, flyers, or other types of written communication or notice to advertise or explain the Valley View Ranch Upslope Sediment Reduction Project.

Exhibit B
Valley View Ranch Upslope Sediment Reduction Project
Map 1 – Project Overview
T1S, R2W, S 26, 27, 33, 34 and 35; T2S, R2W, S 3 and 4
Petrolia Quad – Humboldt County

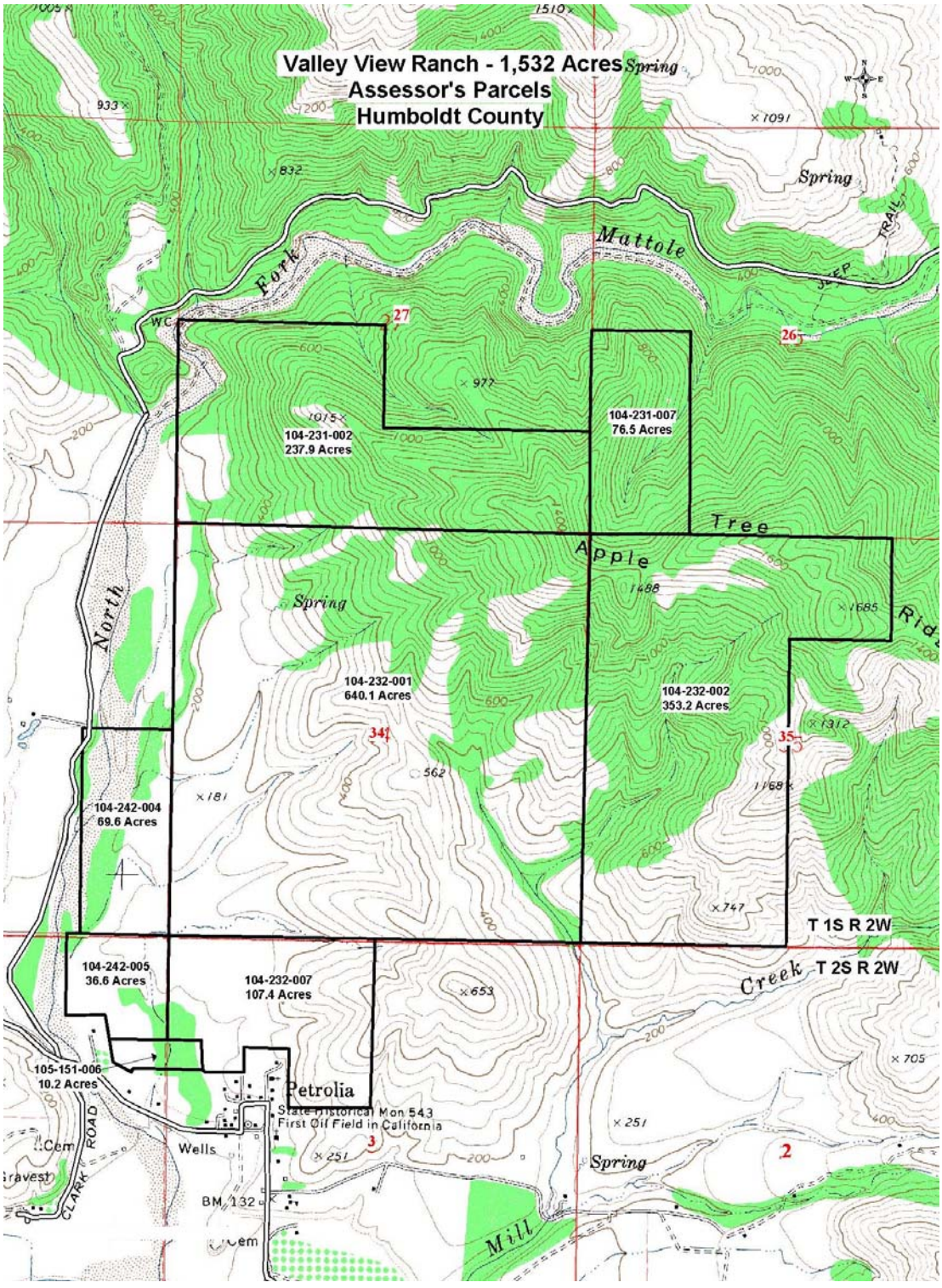


Exhibit B
Valley View Ranch Upslope Sediment Reduction Project
Map 2 – Road Unit A
T1S, R2W, S 26, 27 and 34 – Petrolia Quad – Humboldt County

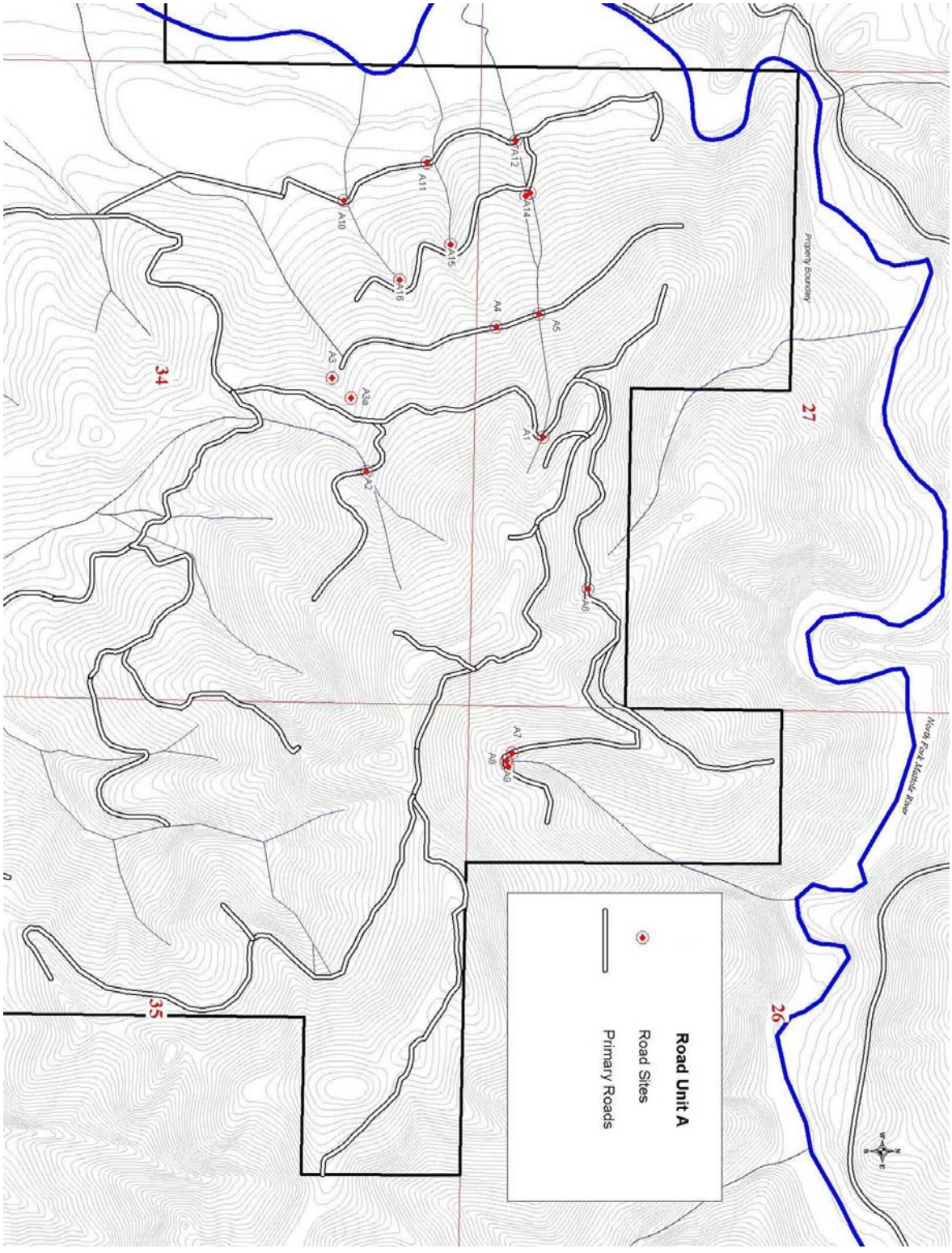


Exhibit B
Valley View Ranch Upslope Sediment Reduction Project
Map 3 – Road Unit B
T1S, R2W, S 34 and 35; T2S, R2W, S 3
Petrolia Quad – Humboldt County

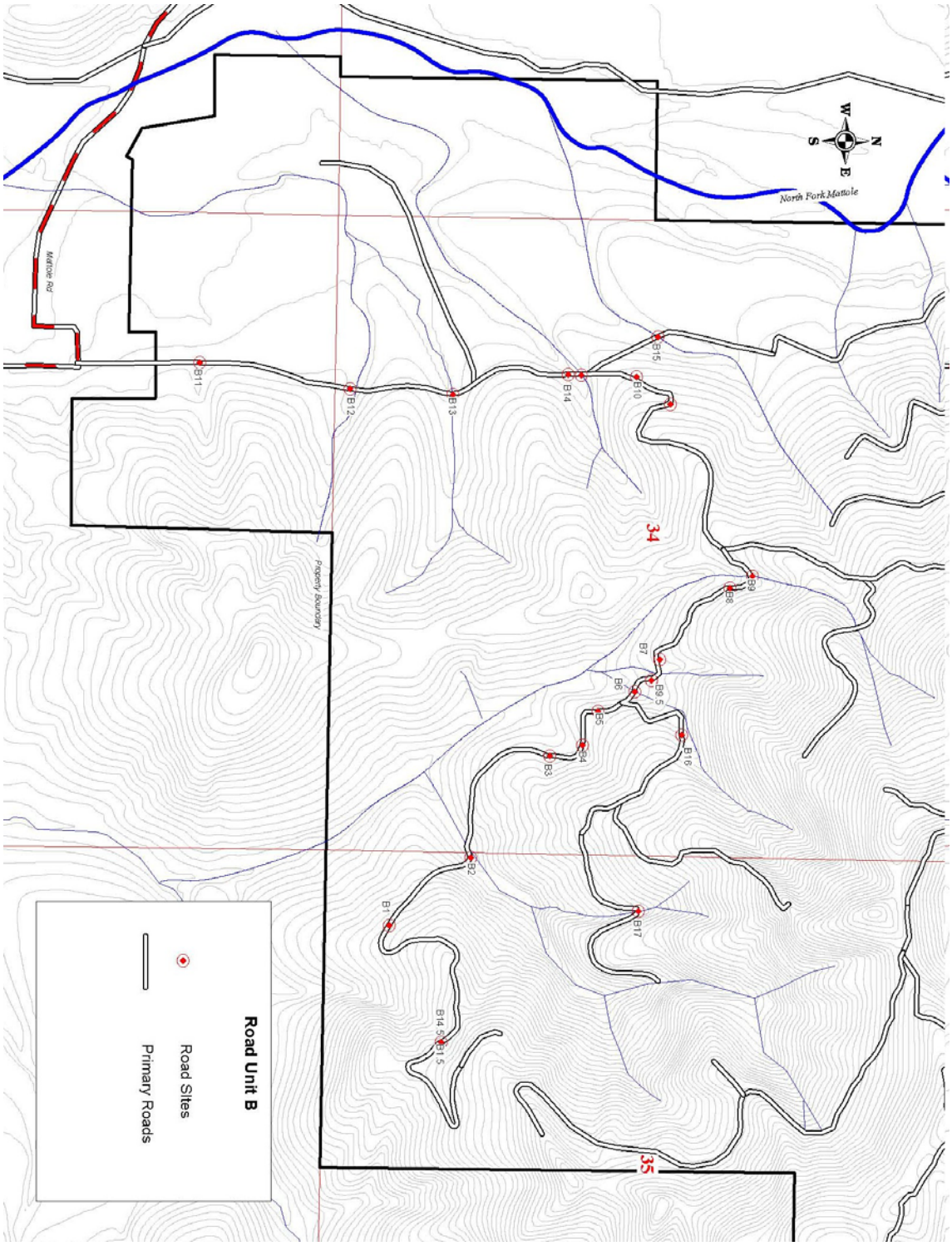


Exhibit B
Valley View Ranch Upslope Sediment Reduction Project
Map 4 – Mill Creek Project Area
T1S, R2W, S 34 - Petrolia Quad – Humboldt County

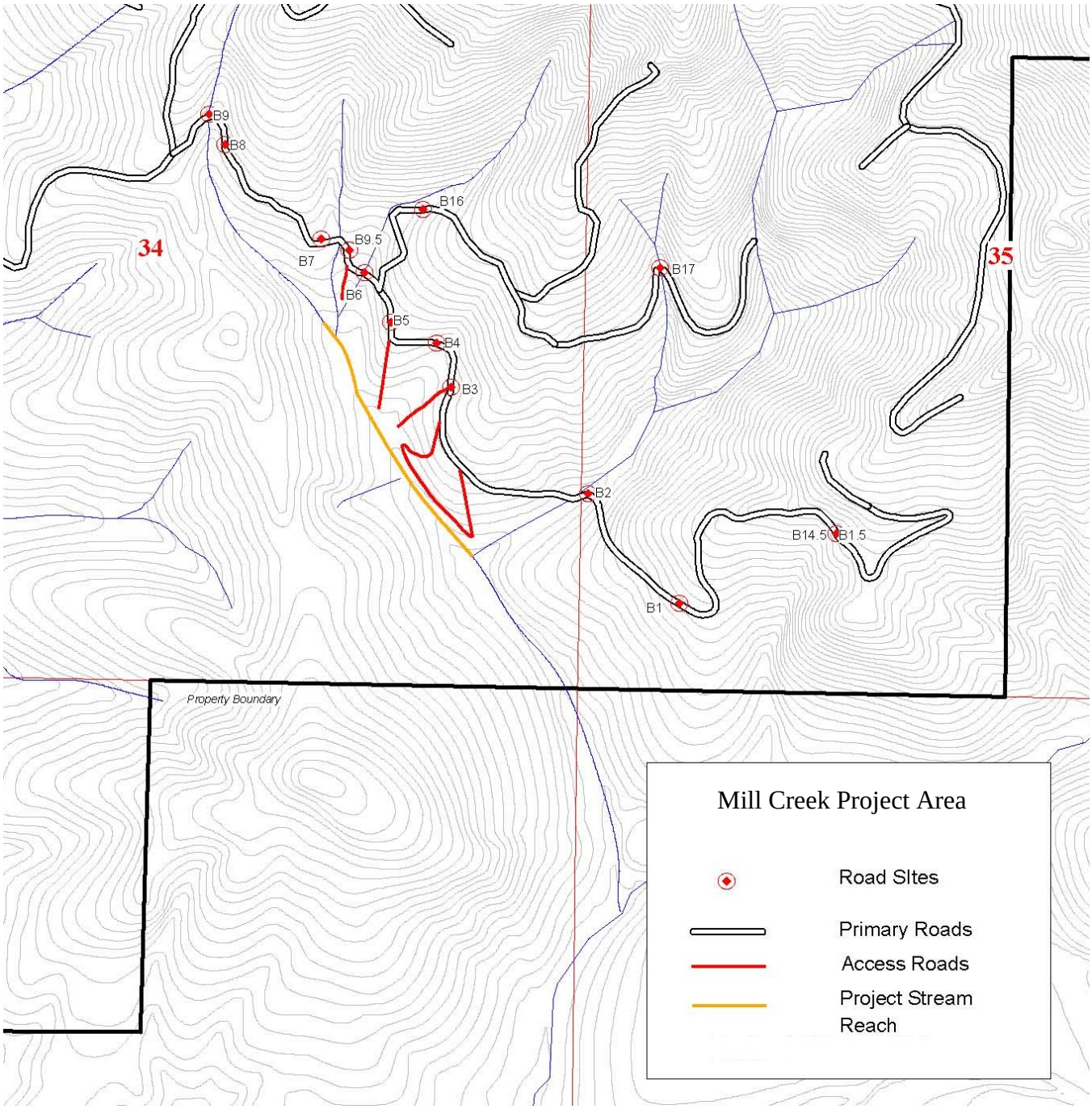


Exhibit B
Valley View Ranch Upslope Sediment Reduction Project
Map 5 – Jon's Gully and Class II Grade Controls
T1S, R2W, S 34; T2S, R2W, S 3 - Petrolia Quad – Humboldt County

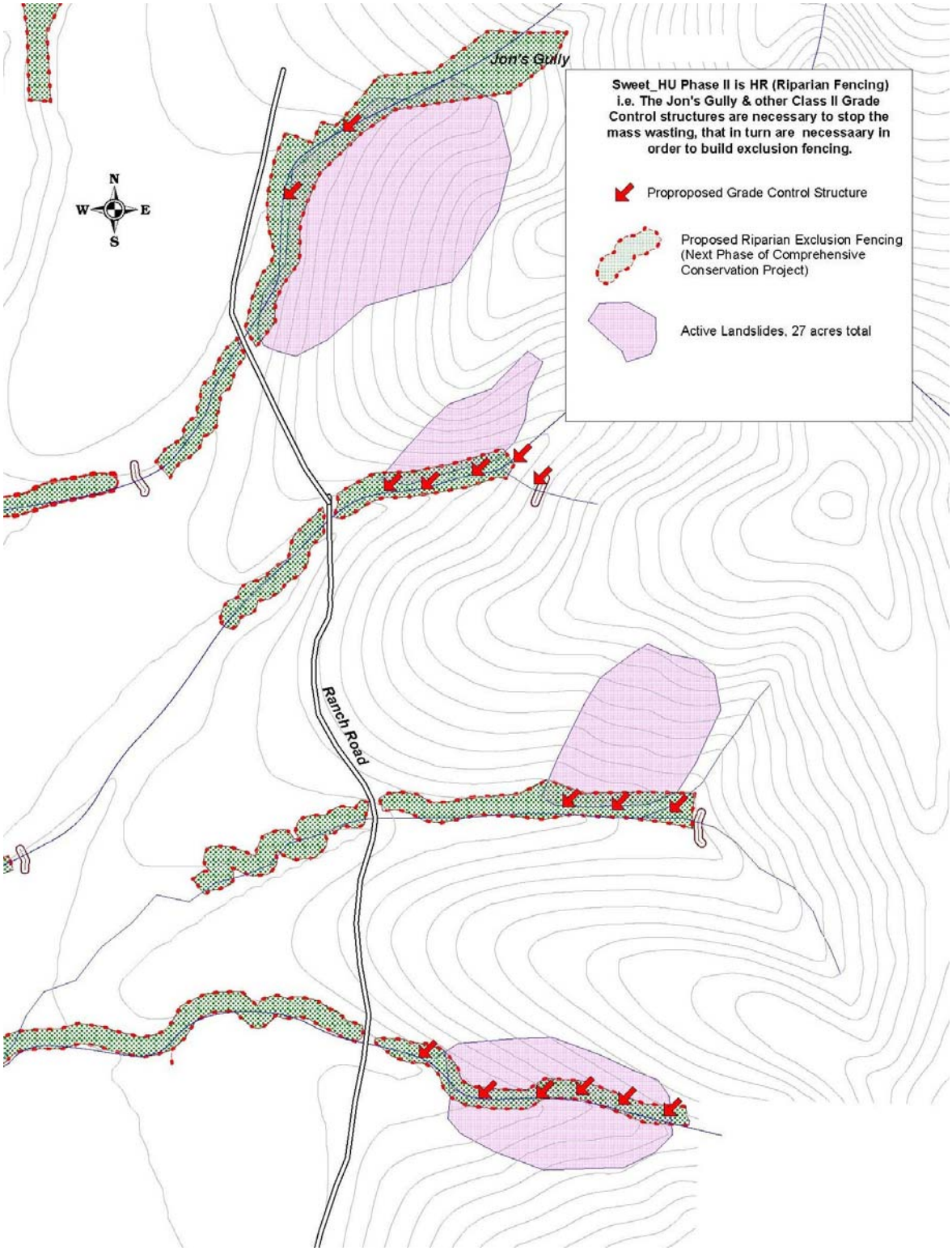
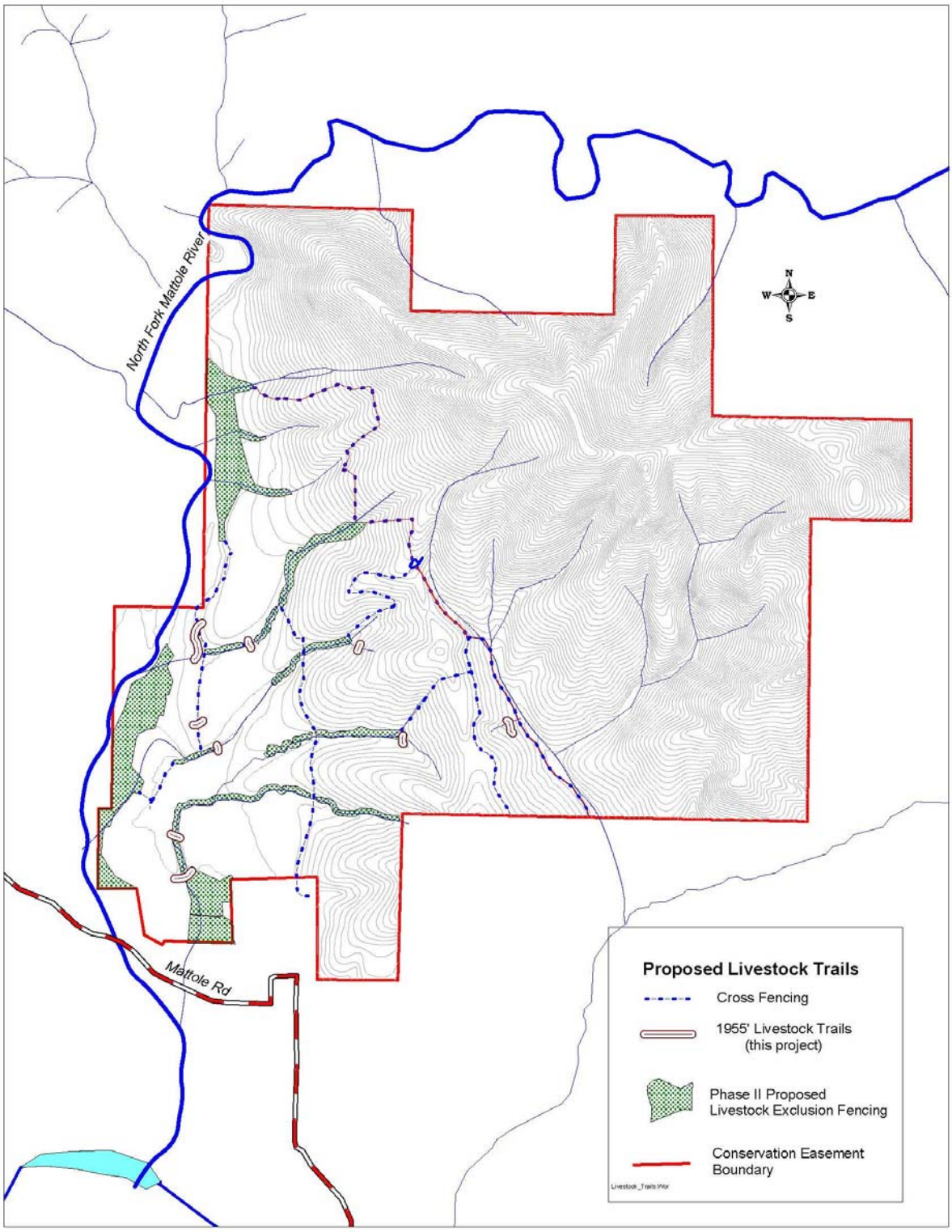


Exhibit B
Valley View Ranch Upslope Sediment Reduction Project
Map 6 – Livestock Trails
T1S, R2W, S 33 and 34; T2S, R2W, S 3 and 4 - Petrolia Quad – Humboldt County



California Department of Fish and Game
Natural Diversity Database
Selected Elements by Common Name - Portrait
Possible Species within the Petrolia and Surrounding Quads for:
Valley View Ranch Upslope Sediment Reduction Project
T1S, R2W, S 26, 27, 33, 34 and 35; T2S, R2W, S 3 and 4
Humboldt County

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	American badger *Taxidea taxus*	AMAJF04010			G5	S4	SC
2	Coastal Douglas Fir Western Hemlock Forest	CTT82410CA			G4	S2.1	
3	Coastal and Valley Freshwater Marsh	CTT52410CA			G3	S2.1	
4	Cooper's hawk *Accipiter cooperii*	ABNKC12040			G5	S3	
5	Hitchcock's blue-eyed grass *Sisyrinchium hitchcockii*	PMIRI0D0S0			G2	S1.1	1B.1
6	Howell's montia *Montia howellii*	PDPOR05070			G3G4	S3	2.2
7	Oregon coast paintbrush *Castilleja affinis ssp. litoralis*	PDSCR0D012			G4G5T4	S2.2	2.2
8	Oregon polemonium *Polemonium carneum*	PDPLM0E050			G4	S1	2.2
9	Pacific gilia *Gilia capitata ssp. pacifica*	PDPLM040B6			G5T3T4	S2.2?	1B.2
10	Pacific tailed frog *Ascaphus truei*	AAABA01010			G4	S2S3	SC
11	Siskiyou checkerbloom *Sidalcea malviflora ssp. patula*	PDMAL110F9			G5T1	S1.1	1B.2
12	Sonoma tree vole *Arborimus pomo*	AMAFF23030			G3	S3	SC
13	Wolf's evening-primrose *Oenothera wolfii*	PDONA0C1K0			G1	S1.1	1B.1
14	beach layia *Layia carnosa*	PDAST5N010	Endangered	Endangered	G2	S2.1	1B.1
15	coast fawn lily *Erythronium revolutum*	PMLIL0U0F0			G4	S3	2.2
16	coastal marsh milk-vetch *Astragalus pycnostachyus var. pycnostachyus*	PDFAB0F7B2			G2T2	S2.2	1B.2
17	coho salmon - central California coast ESU *Oncorhynchus kisutch*	AFCHA02034	Endangered	Endangered	G4	S2?	
18	foothill yellow-legged frog *Rana boylii*	AAABH01050			G3	S2S3	SC
19	giant fawn lily *Erythronium oregonum*	PMLIL0U0C0			G5	S2.2	2.2
20	golden eagle *Aquila chrysaetos*	ABNKC22010			G5	S3	
21	great blue heron *Ardea herodias*	ABNGA04010			G5	S4	
22	great egret *Ardea alba*	ABNGA04040			G5	S4	

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
23	leafy reed grass *Calamagrostis foliosa*	PMPOA170C0		Rare	G3	S3.2	4.2
24	long-beard lichen *Usnea longissima*	NLLEC5P420			G4	S4.2	
25	maple-leaved checkerbloom *Sidalcea malachroides*	PDMAL110E0			G3G4	S3S4.2	4.2
26	marbled murrelet *Brachyramphus marmoratus*	ABNNN06010	Threatened	Endangered	G3G4	S1	
27	northern spotted owl *Strix occidentalis caurina*	ABNSB12011	Threatened		G3T3	S2S3	SC
28	seacoast ragwort *Packera bolanderi var. bolanderi*	PDAST8H0H1			G4T4	S1.2	2.2
29	short-leaved evax *Hesperevax sparsiflora var. brevifolia*	PDASTE5011			G4T2T3	S2S3	1B.2
30	summer-run steelhead trout *Oncorhynchus mykiss irideus*	AFCHA0213B			G5T4Q	S2	SC
31	willow flycatcher *Empidonax traillii*	ABPAE33040		Endangered	G5	S1S2	